



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0851; Product Identifier 2020-NM-081-AD; Amendment 39-21507; AD 2021-08-13]

RIN 2120-AA64

Airworthiness Directives; Airbus SAS Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Airbus SAS Model A318 series airplanes; Model A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, and A319-133 airplanes; Model A320-211, A320-212, A320-214, A320-216, A320-231, A320-232, and A320-233 airplanes; and Model A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231, and A321-232 airplanes. This AD was prompted by reports that certain oxygen supply solenoid valves are a potential source of increased flow resistance within the flightcrew oxygen system. This AD requires a detailed inspection (flow test) of certain solenoid valves, and replacement if necessary, as specified in European Union Aviation Safety Agency (EASA) ADs, which are incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For EASA material incorporated by reference (IBR) in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find this IBR material on the EASA website at <https://ad.easa.europa.eu>. For Airbus SAS service information incorporated by reference in this final rule, contact Airbus SAS, Airworthiness Office - EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet <https://www.airbus.com>. You may view this IBR material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0851.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0851; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Sanjay Ralhan, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3223; email Sanjay.Ralhan@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2020-0104R1 dated January 28, 2021 (EASA AD 2020-0104R1) (referred to after this as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct an unsafe condition for all Airbus SAS Model A318-111, A318-112, A318-121, and A318-122 airplanes; Model A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, and A319-133 airplanes; Model A320-211, A320-212, A320-214, A320-216, A320-231, A320-232, and A320-233 airplanes; and Model A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231, and A321-232 airplanes.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus SAS Model A318 series airplanes; Model A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, and A319-133 airplanes; Model A320-211, A320-212, A320-214, A320-216, A320-231, A320-232, and A320-233 airplanes; and Model A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231, and A321-232 airplanes. The NPRM published in the *Federal Register* on October 15, 2020 (85 FR 65282). The NPRM was prompted by reports that certain oxygen supply solenoid valves are a potential source of increased flow resistance within the flightcrew oxygen system. The NPRM proposed to require a detailed inspection (flow test) of certain solenoid valves, and replacement if necessary, as specified in EASA AD 2020-0104R1.

The FAA is issuing this AD to address increased flow resistance within the flightcrew oxygen system, which could lead to a reduced flow of oxygen supply to the flightcrew oxygen masks, and in combination with in-flight depressurization, smoke in the flight deck, or a smoke evacuation procedure, could lead to flightcrew hypoxia and loss of useful consciousness, resulting in loss of control of the airplane. See the MCAI for additional background information.

Revised EASA AD

In the NPRM, the FAA referred to EASA AD 2020-0104, dated May 7, 2020 (EASA AD 2020-0104). Since the NPRM was issued, EASA issued AD 2020-0104R1, which clarifies that certain solenoid valves are no longer considered affected parts.

The agency determined that no additional work is required for airplanes that have accomplished the actions as required by EASA AD 2020-0104. Therefore, the agency has revised all applicable sections in this final rule to also specify EASA AD 2020-0104R1.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Support for the NPRM

The Air Line Pilots Association, International (ALPA) stated that it supports the NPRM.

Request to Allow Use of Additional Service Information

American Airlines (AA) requested that operators be allowed to use the deviation provided in an Airbus technical adaptation for a certain solenoid valve test. The operator noted that there is a discrepancy in the Airbus service bulletin specified in EASA AD 2020-0104. The commenter explained that one of the required for compliance (RC) paragraphs in the service bulletin states that a test of the solenoid valve is required, no matter the result of the three masks flow test, but a flowchart in that service bulletin does not indicate that this test is required if the three masks flow test was successful. The commenter stated that it contacted Airbus regarding this issue and Airbus confirmed that

there is an error and provided a Design Organization Approval (DOA) approved technical adaptation to address that error.

The FAA agrees with the commenter's request for the reasons provided. The FAA has added paragraph (h)(4) to this AD to allow the use of Airbus Technical Adaptation 80843604/008/2020, Issue 1, dated November 3, 2020.

Request to Include Requirement for Part Marking

United Air Lines (UAL) requested that affected parts that were inspected and passed the three masks flow test be marked. The commenter explained that this would assist operators in easily identifying an affected part that has been inspected and passed the three masks flow test. The commenter stated that this would prevent the part from being tied to a specific airplane and would allow installation of that part on another airplane.

The FAA disagrees with the commenter's request. The FAA conferred with EASA and EASA responded that allowing an affected part to become a rotatable part had been discussed during development of its original proposed AD. It was determined that, because of the potential differences in the oxygen system architecture in the configuration of different airplanes, a part that successfully passed the three masks flow test on one airplane does not guarantee that an air flow deficit would not exist if that part was moved to another airplane with a different oxygen system configuration. In addition, Airbus recommended that a pass/fail label not be applied to tested valves to avoid complications in tracking parts based on the tested oxygen system configuration. For these reasons, the FAA finds that no change to this AD is necessary in regard to this issue.

Request to Clarify Parts Installation Paragraph

UAL stated that it objected to paragraph (3), Part(s) Installation, of EASA AD 2020-0104 that was referred to in the proposed AD. The commenter stated that, in the interest of safety, an affected part should not be allowed to be installed on an airplane.

The FAA infers that the commenter is requesting that the proposed AD be revised to include a Parts Installation Prohibition paragraph to prohibit operators from installing an affected part on an airplane.

The FAA does not agree with the commenter's request. The FAA has determined that if, before the next flight after installation on an airplane, an affected part passes the required flow test, the unsafe condition identified in this AD has been addressed and there is not a safety of flight issue. The FAA has not revised this AD in regard to this issue.

Request to Omit Duplicate Test

UAL requested that the order of certain actions identified as RC in the Airbus SAS service bulletin specified in EASA AD 2020-0104 be changed. The commenter suggested that, instead of waiting until after the failure of a test to check that the oxygen storage cylinder is fully open and then doing the test again, the check of the oxygen cylinder should be part of the test preparation. The commenter explained that this would preclude the repetition of the test.

The FAA disagrees with the commenter's request. The FAA conferred with EASA and it is presumed that the oxygen cylinder is fully open prior to starting the test. In addition, the majority of test reports provided by operators to Airbus and EASA did not identify any flow blockage. Therefore, adding the step to ensure that the oxygen cylinder is fully open would increase the work involved to accomplish each test versus doing only a check for the sole purpose of demonstrating compliance with an AD. Neither Airbus nor EASA recommend changing the order of the actions identified as RC in the Airbus SAS service bulletin and the FAA concurs. However, the FAA does not have any objection if the commenter or any operator includes a step in the test

preparation to ensure that the oxygen cylinder is fully open to avoid the duplicative test identified by the commenter. The FAA has not revised this AD in regard to this issue.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information under 1 CFR Part 51

EASA ADs 2020-0104 and 2020-0104R1 describe procedures for doing a detailed inspection (flow test) of certain solenoid valves using the flightcrew oxygen masks and replacing any solenoid valve that fails the flow test with a serviceable part. These documents are distinct since AD 2020-0104R1 clarifies that certain solenoid valves are no longer considered affected parts.

Airbus SAS has issued Technical Adaptation 80843604/008/2020, Issue 1, dated November 3, 2020, which specifies that, when a solenoid valve successfully passes the three masks flow test, operators do not need to do the test specified in paragraph 3.E.(1) of the Accomplishment Instructions of the Airbus SAS service information specified in EASA ADs 2020-0104 and 2020-0104R1.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 1,100 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
3 work-hours X \$85 per hour = \$255	\$0	\$255	\$280,500

The FAA estimates the following costs to do any necessary on-condition action that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need this on-condition action:

Estimated costs of on-condition action

Labor cost	Parts cost	Cost per product
1 work-hour X \$85 per hour = \$85	\$*	\$85

*The FAA has received no definitive data that would enable the agency to provide parts cost estimates for the on-condition replacement specified in this AD.

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators. The FAA does not control warranty coverage for affected operators. As a result, the FAA has included all known costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2021-08-13 Airbus SAS: Amendment 39-21507; Docket No. FAA-2020-0851; Product Identifier 2020-NM-081-AD.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Airbus SAS airplanes specified in paragraphs (c)(1) through (4) of this AD, certificated in any category.

(1) Model A318-111, A318-112, A318-121, and A318-122 airplanes.

(2) Model A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, and A319-133 airplanes.

(3) Model A320-211, A320-212, A320-214, A320-216, A320-231, A320-232, and A320-233 airplanes.

(4) Model A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231, and A321-232 airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 35, Oxygen.

(e) Reason

This AD was prompted by reports that certain oxygen supply solenoid valves are a potential source of increased flow resistance within the flightcrew oxygen system. The FAA is issuing this AD to address increased flow resistance within the flightcrew oxygen system, which could lead to a reduced flow of oxygen supply to the flightcrew oxygen masks, and in combination with in-flight depressurization, smoke in the flight deck, or a smoke evacuation procedure, could lead to flightcrew hypoxia and loss of useful consciousness, resulting in loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2020-0104, dated May 7, 2020 (EASA AD 2020-0104) or EASA AD 2020-0104R1, dated January 28, 2021 (EASA AD 2020-0104R1).

(h) Exceptions to EASA ADs 2020-0104 and 2020-0104R1

(1) Where EASA AD 2020-0104 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where EASA AD 2020-0104R1 refers to May 21, 2020 “[the effective date of the original issue of this [EASA] AD],” this AD requires using the effective date of this AD.

(3) The “Remarks” sections of EASA ADs 2020-0104 and 2020-0104R1 do not apply to this AD.

(4) Where procedure step 3.E.(1) of the Accomplishment Instructions of Airbus SAS Service Bulletin A320-35-1096, dated September 18, 2019, specified in EASA ADs 2020-0104 and 2020-0104R1, requires a test of the solenoid valve, this AD allows deviation from that Required for Compliance (RC) action, as specified in Airbus SAS Technical Adaptation 80843604/008/2020, Issue 1, dated November 3, 2020.

(i) No Reporting Requirement

Although the service information referenced in EASA ADs 2020-0104 and 2020-0104R1 specify to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Large Aircraft Section, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the Large Aircraft Section, International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, Large Aircraft Section, International Validation Branch, FAA; or EASA; or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) *Required for Compliance (RC)*: For any service information referenced in EASA ADs 2020-0104 and 2020-0104R1 that contains RC procedures and tests: Except as required by paragraphs (h)(4) and (j)(2) of this AD, if any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

(k) Related Information

For more information about this AD, contact Sanjay Ralhan, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3223; email Sanjay.Ralhan@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2020-0104, dated May 7, 2020.

(ii) European Union Aviation Safety Agency (EASA) AD 2020-0104R1, dated January 28, 2021.

(iii) Airbus SAS Technical Adaptation 80843604/008/2020, Issue 1, dated November 3, 2020.

Note 1 to paragraph (l)(2)(iii): The issue date of the document is identified only on the last page of the document.

(3) For EASA ADs 2020-0104 and 2020-0104R1, contact the EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find these EASA ADs on the EASA website at <https://ad.easa.europa.eu>.

Note 2 to paragraph (l)(3): EASA AD 2020-0104 can be accessed in the zipped file at the bottom of the web page for EASA AD 2020-0104R1. When EASA posts a revised AD on their website, they watermark the previous AD as “Revised,” alter the file name by adding “_revised” to the end, and move it into a zipped file attached at the bottom of the AD web page.

(4) For Airbus SAS service information, contact Airbus SAS, Airworthiness Office - EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet <https://www.airbus.com>.

(5) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. This material may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0851.

(6) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on April 5, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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